

**PATENT APPLICATION
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WALL PANEL SYSTEM

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FIELD OF THE INVENTION

[0001] This invention relates in general to wall panel systems and, more particularly, to a wall panel system that utilizes an attachment clip system for attachment to a wall.

BACKGROUND OF THE INVENTION

[0002] Wall panel systems are typically used on the exteriors of buildings for decoration and weather protection. A grid structure is attached to a wall of a building. Wall panels are affixed to the grid structure, covering all, or part of, the wall of the building.

[0003] Conventionally, wall panel systems utilize system wall panels that are installed directionally, creating a plurality of panel joints along the grid structure. Panel joints are a source of water leakage, allowing water to seep past the wall panels and degrade the underlying wall structure.

[0004] Prior art wall panel systems attempt to avoid the problem with water seepage in one of two ways. One conventional solution is to create, at the panel joints, a convoluted pathway for water to travel. Another conventional solution is to install gaskets at each portion of the joint where components interconnect. Other systems combine these two solutions. Each of these conventional panel systems is usually composed of complex components that are difficult to install and expensive to manufacture. Furthermore, these systems often do not achieve the desired result. Moisture still seeps along the complex pathways and past the gaskets to reach the underlying wall.

SUMMARY OF THE INVENTION

[0005] According to principles of the present invention, in one embodiment, a wall panel system attaches to a wall. The wall panel system has an attachment clip, a panel perimeter, and a wall panel. The attachment clip is secured to the wall. The panel perimeter has two legs. One leg is held between the attachment clip and the wall. The wall panel is attached to the other leg.

DESCRIPTION OF THE DRAWINGS

- [0006] Figures 1 and 2 are partially cut away orthogonal views of one embodiment of the present invention wall panel system.
- [0007] Figure 3 is a cross-sectional view of the wall panel system shown in Figure 1.
- [0008] Figure 4 is a cross-sectional view of an alternate embodiment of the wall panel system shown in Figure 3.

DETAILED DESCRIPTION OF THE INVENTION

- [0009] Figures 1 and 2 illustrate, in a partially cut away orthogonal view, one embodiment of the wall panel system 2 of the present invention. Wall panel system 2 includes an attachment clip 4, a panel perimeter 6, a wall panel 8, and in one embodiment, a sub-frame member 10. Optionally, wall panel system 2 further includes a moisture barrier 12 and a joint closure 14.
- [0010] Wall panel 8 is any panel adapted to be affixed to an exterior wall 16 of a building. Wall 16 may be a wall frame, dry wall, concrete, support beams, or the like. Wall panel 8 can have any profile, including square, rectangular, angled, flat, or curved and can be any dimension. Wall panel 8 is composed of any suitable material such as aluminum composite material.
- [0011] In one embodiment, wall panel 8 is any panel adapted to be affixed to panel perimeter 6. Wall panel 8 is attached to panel perimeter 6 by any means. Examples of means for attaching wall panel 8 to panel perimeter 6 include screws, rivets, anchors, nails, and adhesives. In an alternate embodiment, panel perimeter 6 is integral with wall panel 8.
- [0012] In one embodiment, panel perimeter 6 is an "L" shaped bracket structure having two legs. The first leg 18 is held between attachment clip 4 and wall 16. Wall panel 8 is attached to second leg 20. In one embodiment, first leg 18 is substantially parallel to wall 16 and second leg 20 is substantially perpendicular to wall 16. Where panel perimeter 6 is integral with wall panel 8, there is only first leg 18.
- [0013] Attachment clip 4 is any device or structure adapted to hold panel perimeter 6 between attachment clip 4 and wall 16. More than one panel perimeter 6 may be disposed between attachment clip 4 and sub-frame member 10. Attachment

clip 4 is secured to wall 16. Attachment clip 4 may be attached to wall 16 by any means such as screws, rivets, anchors, nails, or adhesive.

[0014] In one embodiment, attachment clip 4 includes a pair of feet 22 and a bridge 24 spanning between the feet 22. At least one of the pair of feet 22 holds first leg 18 of panel perimeter 6 between attachment clip 4 and wall 16.

[0015] Sub-frame member 10 is disposed between panel perimeter 6 and wall 16 and attached to wall 16. Attachment clip 4 is fastened to sub-frame member 10 and holds panel perimeter 6 against sub-frame member 10. Together with fastener 26, sub-frame member 10 is a means for securing attachment clip 4 to wall 16. In one embodiment, fastener 26 passes through attachment clip 4 and into sub-frame member 10. In an alternate embodiment, sub-frame member 10 is not present and fastener 26 secures attachment clip 4 to wall 16. Where attachment clip 4 includes bridge 24, fastener 26 passes through bridge 24.

[0016] Sub-frame member 10 is made of any material and is configured in any shape suitable for mounting a wall-system. Sub-frame member 10 is attached to wall 16 by any means. Examples of means for attaching sub-frame member 10 to wall 16 include screws, rivets, anchors, nails, and adhesives. Sub-frame member 10 may be contiguous with wall 16 or may be separated from wall 16. Often, sub-frame members 10, attachment clips 4, and panel perimeters 6 will be laid out in a grid pattern on wall 16 for attachment of wall panels 8.

[0017] In one embodiment, sub-frame member 10 includes a pair of rims 28 attached to wall 16 and a central support 30 between rims 28. Attachment clip 4 is fastened to sub-frame member 10 at central support 30.

[0018] Moisture barrier 12 is disposed between attachment clip 4 and wall 16 to preventing moisture from passing to wall 16. Where sub-frame member 10 is present, moisture barrier 12 is disposed between sub-frame member 10 and wall 16. In one embodiment, moisture barrier 12 is a self-sealing membrane.

[0019] Joint closure 14 is secured to attachment clip 4 opposite wall 16. Joint closure 14 covers attachment clip 4.

[0020] Usually, panel perimeter 6 and wall panel 8 will be used in pairs about attachment clip 4. Figure 3 illustrates this embodiment in cross-section.

[0021] In an alternate embodiment, typically on the edges of a wall, panel perimeter 6 and wall panel 8 will not be paired about attachment clip 4. Figure 4

illustrates this embodiment in cross -section. In Figure 4, it may be seen that sub-frame member 10 is slightly thicker on one side 32 than the other side 34. The thicker side 32 of sub-frame member 10 replaces, or partially replaces, the thickness of absent panel perimeter 6. In an alternate embodiment, the thickness of absent panel perimeter 6 is accommodated in some other fashion, for example, a spacer (not shown) may be placed between sub-frame member 10 and attachment clip 4 or one foot 22 of attachment clip 4 may be longer than the other foot 22.

[0022] The foregoing description is only illustrative of the invention. Various alternatives and modifications can be devised by those skilled in the art without departing from the invention. Accordingly, the present invention embraces all such alternatives, modifications, and variances that fall within the scope of the appended claims.